DOCUMENT RESUME

ED 050 289 VT 013 213

AUTHOR	Sellers, Walter E., Jr.
TITLE	Family and Hired Labor Used on U.S. Farms in 1966.
INSTITUTION	Economic Research Service (DOA), Washington, D.C.
REPORT NO	Stat-Bull-459
PUB DATE	Dec 70
NOTE	49p.
AVAILABLE FROM	Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (AL.34:459, $.50)
EDRS PRICE	EDRS Price MF-$0.65 HC Not Available from EDRS.
DESCRIPTORS	*Agricultural Education, Agricultural Laborers, Agricultural Production, Agriculture, *Farmers, *Farm Labor, Farm Labor Supply, *Manpower Utilization, Occupational Surveys, *Rural Family, Statistical Data, Statistical Surveys

ABSTRACT

Based on data in the 1966 Pesticide and General Farm Survey, a comparison of labor-use practices of different types and sizes of farms showed that family workers were still the major source of farm manpower in 1966. Over half the farms with sales under $2,500 used only family labor, yet only 6 percent of the large-scale farms operated with just family labor. Farmers hiring labor used more family labor than farmers not hiring labor. When hiring, operators of small farms mostly used seasonal labor. Seasonal hired help were used more in the Pacific and Southern Regions, with their most significant contribution on large vegetable and fruit and nut farms. Regular hired workers were the major source of hired manpower for large-scale farms and for most of the dairy and livestock operations in the Northern Regions. Total hours of labor used and proportion that was hired also varied by farm type. A tobacco farmer used 3,625 hours of labor, with only 18 percent of it hired, while a vegetable farmer used 7,600 hours, with 63 percent of it hired. (Author)

ED050289

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

1

FAMILY AND HIRED LABOR USED ON U. S. FARMS IN 1966

U.S. DEPARTMENT OF AGRICULTURE • ECONOMIC RESEARCH SERVICE • STATISTICAL BULLETIN NO. 459

FARM PRODUCTION REGIONS

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 1399 A-62 (8) ECONOMIC RESEARCH SERVICE

ED050289

ABSTRACT

Based on data in the 1966 Pesticide and General Farm Survey, a comparison of labor-use practices of different types and sizes of farms showed family workers were still the major source of farm manpower in 1966. Over half the farms with sales under $2,500 used only family labor, yet only 6 percent of the large-scale farms operated with just family labor. Farmers hiring labor used more family labor than farmers not hiring labor. When hiring, operators of small farms mostly used seasonal labor. Seasonal hired help were used more in the Pacific and Southern Regions, with their most significant contribution on large vegetable and fruit and nut farms. Regular hired workers were the major source of hired manpower for large-scale farms and for most of the dairy and livestock operations in the Northern Regions. Total hours of labor used and proportion that was hired also varied by farm type. A tobacco farmer used 3,625 hours of labor, with only 18 percent of it hired, while a vegetable farmer used 7,600 hours, with 63 percent of it hired.

Key Words: Farm labor; family labor; hired labor; U.S. farm size; and farm type.

Cover photographs are (1) top--farm operator using plow-plant rig; (2) bottom left--hired seasonal labor harvesting grapes; and (3) bottom right--hired seasonal labor picking beans.

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402

CONTENTS

	Page
HIGHLIGHTS	vi
INTRODUCTION	1
HUMAN RESOURCES USED ON ALL FARMS	2
Effects of farm size on labor demand	2
Regional variation in labor demand	4
Effects of farm type on labor demand	6
FAMILY WORKERS	8
Labor input by kind of family worker	8
Labor input by farm size	9
Labor input by farm type	13
Regional patterns of family labor use	14
HIRED WORKERS	16
Hiring practices by farm size	17
Hiring practices by farm type	18
Regional differences in use of hired labor	20
APPENDIX A: TABLES	24
APPENDIX B: SCOPE AND METHOD OF 1966 SURVEY	37
APPENDIX C: SURVEY DEFINITIONS	41

Washington, D.C. 20250 December 1970

TABLES

Table		Page
1	Number of farms and sales of farm products, and percentage distribution of each by value of farm products sold, 48 States, 1966	2
2	Annual hours of labor per farm, all farms, and distribution of hours worked by family and hired labor, by value of farm products sold, 48 States, 1966	3
3	Annual hours of labor per farm, all farms, and distribution of hours worked by family and hired labor, by region, 48 States, 1966	5
4	Annual hours of labor per farm, all farms, and distribution of hours worked by family and hired labor, by type of farm, 48 States, 1966	7
5	Percentage of farms hiring labor and hours of family labor as percentage of total on farms hiring and not hiring labor, by value of farm products sold, 48 States, 1966	10
6	Distribution of farms hiring labor, by value of farm products sold and type of farm, 48 States, 1966	12
7	Percentage of farms hiring labor and hours of family labor as percentage of total on farms hiring and not hiring labor, by region, 48 States, 1966	15
8	Annual hours of farmwork and percentage of total hours worked by family and hired labor on farms hiring labor, by value of farm products sold, 48 States, 1966	18
9	Annual hours of farmwork and percentage of total hours worked by family and hired labor on farms hiring labor, by type of farm, 48 States, 1966	19
10	Percentage of farms hiring labor and of total hours hired per farm, by region and value of farm products sold, 48 States, 1966	21
11	Percentage of farms hiring labor and of total hours hired per farm, by region and type of farm, 48 States, 1966	22

APPENDIX TABLES

Table		Page
1	Annual hours of family labor on farms hiring and not hiring labor, by value of farm products sold and type of farm, 48 States, 1966	24
2	Annual hours of family and hired labor on farms hiring labor, by value of farm products sold and type of farm, 48 States, 1966	26
3	Annual hours of family and hired labor on farms hiring labor, by region and value of farm products sold, 48 States, 1966	28
4	Annual hours of family and hired labor on farms hiring labor, by region and type of farm, 48 States, 1966	30
5	Acreage on farms hiring and not hiring labor, by value of farm products sold and selected crops, 48 States, 1966	32
6	Acreage on farms hiring and not hiring labor, by type of farm and selected crops, 48 States, 1966	34
7	Distribution of farms by economic class in selected surveys or estimates based on surveys	38
8	Distribution of value of sales by economic class for three major surveys or estimates	39
9	Distribution of farms by type of farm in 1964 Census of Agriculture and 1966 survey	40

HIGHLIGHTS

Family workers were still the major source of farm manpower in 1966. The importance of family farm labor varied by farm size and type and by geographic location. While over half the small farms (sales under $2,500) relied on family labor, only 6 percent of the large-scale farms operated with just family labor. The operator and his family put in as few as 1,500 hours a year on a cotton farm in the Southeast, while the average family on a dairy farm in the Northeast or Lake States worked about 5,500 hours during the year.

Farmers hiring labor also used more family labor than those farmers not hiring labor. Farms using only family labor were generally smaller in total acreage and had fewer acres of labor-intensive crops. This occurred for almost every size-group and type of farm.

Source of hired labor varied among the different sizes and types of farms. When hiring, operators of small farms almost always used seasonal help. Yet these workers made their most significant contribution on large vegetable and fruit and nut farms. Seasonal hired help was used more in the Pacific and Southern Regions than elsewhere. In contrast, regular hired workers were the major source of hired manpower for large-scale farms and for most of the dairy and livestock operations in the Northern Regions.

In the farming sector, the amount of labor used during the year varies greatly. Annual hours of labor not only vary among farm types, but also among similar sizes and types of farms in different geographic areas. While a tobacco farmer used only 3,625 hours of labor, with 18 percent of it hired, a vegetable farmer used 7,600 hours, with 63 percent of it hired. Northeastern dairy farms used 7,429 hours, with only a fourth of it hired, whereas Southeastern dairy farms averaged over 12,200 hours and hired two-thirds of the labor. Regular hired workers averaged a hefty 3,855 hours of work during the year on vegetable farms in the Pacific Region, whereas similar workers in the Northeast averaged only 2,100 hours, and in some other regions, much less.

FAMILY AND HIRED LABOR USED ON U.S. FARMS IN 1966

By

Walter E. Sellers Jr., Labor Economist
Farm Production Economics Division
Production Resources Branch

INTRODUCTION

Migration from farms and low unemployment in the total labor force characterized the 1960's. By mid-decade, some concern was expressed as to where the farmer was acquiring his labor inputs. Did he still use mostly family labor? What was the contribution of hired labor on farms? Did the source of labor vary among different sizes and types of farms? Was the farm family supplying as much labor in the South as in the North or West? Was the number of hours used to operate a small farm low enough to permit the operator to hold a nonfarm job to supplement his low farm income?

Data obtained on 1966 farming operations were analyzed in an attempt to answer these questions. Although the data relate to 1966 operations, the findings and relationships continue to be valid. Later data of similar detail are not available and are not expected to be available in the near future.

The primary focus of the report was to determine how much variation existed in labor-use practices among different sizes and types of farms. Another objective was to compare farms relying solely on family labor with farms hiring labor. The findings will be useful in the formulation and evaluation of labor policy and legislation; and to public and private research firms and to university scholars in the analysis of an important farm input.

For 1966, farms of all sizes were studied. The large number of small farms so influenced the all-farm data that averages had limited meaning. Thus, small farms are excluded from some of the text tables. However, data on all farms are included in the appendix tables for comparison. Farms with sales under $5,000 are important for some purposes because they comprise almost half of all U.S. farms (table 1). But, in 1966, they produced only 7 percent of all farm products sold and hired only 4 percent of the regular labor (hours) and 12 percent of the seasonal labor (hours) used on surveyed farms.

Data in this report are based on information obtained in the 1966 Pesticide and General Farm Survey. The methodology used in the survey is discussed in appendix B and the distribution of farms is compared with that from other sources. Appendix C gives survey definitions. As the estimates are based on sample data, they are subject to sampling variability. They may differ somewhat from the results that would have been obtained from another sample or from a complete census using the same

Table 1.--Number of farms and sales of farm products, and percentage distribution of each by value of farm products sold, 48 States, 1966

Value of farm products sold	Farms	Farm products sold			
		Total	Crops	Livestock	Other 1/
	Number	Million dollars			
All farms	16,164	225	79	145	1
		Percent			
$50-$4,999	49	7	8	6	16
$5,000-$9,999	19	10	13	8	7
$10,000-$19,999	14	15	17	14	9
$20,000-$39,999	12	23	26	22	19
$40,000-$99,999	5	19	22	18	11
$100,000 and over	1	26	14	32	38
All sales groups	100	100	100	100	100

1/ Nursery, greenhouse, and forest products.

schedules, instructions, and interviewers. The results are also subject to errors of response.

HUMAN RESOURCES USED ON ALL FARMS

Effects of Farm Size on Labor Demand

In 1966, family labor was heavily relied on to operate most farms. On those with sales under $10,000, the farm operator and his family hired very little labor, as they did over 90 percent of the work (table 2). Seasonal workers provided most of the hired help on these farms, usually only during peak seasons. Many of these smaller operators did not hire any labor. Many operators who did so probably had off-farm employment; they preferred to substitute lower priced hired help for their time so they could work in nonfarm employment at higher wages.

In contrast, farms with sales of $40,000 to $99,999 used over 8,400 hours of labor in 1966, with the family supplying just over half this amount. Operators and hired help supplied about an equal proportion of the labor. The largest operations--those with sales of $100,000 and over--used nearly 17,800 hours of labor. The operator and his family could supply only a small proportion--26 percent. Seasonal workers supplied the same percentage of total labor as the operator did. However, the mainstay of these largest farming operations was the regular workers. They provided 52 percent of the labor supply.

Table 2.--Annual hours of labor per farm, all farms, and distribution of hours worked by family and hired labor, by value of farm products sold, 48 States, 1966

Value of farm products sold	Annual hours of labor per farm	Percentage of total hours worked by--						
		Family				Hired		
		Total	Operator	Wife	Other family	Total	Regular	Seasonal
	Hours	Percent						
$50-$2,499	1,528	95	68	12	15	5	1	4
$2,500-$4,999	2,750	93	67	11	15	7	2	4
$5,000-$9,999	3,915	90	65	12	13	10	4	6
$10,000-$19,999	4,991	86	62	10	14	14	8	6
$20,000-$39,999	6,009	79	57	8	14	21	14	7
$40,000-$99,999	8,436	57	42	4	11	43	29	14
$100,000 and over	17,776	26	22	1	3	74	52	22
All sales groups	3,730	81	59	9	13	19	12	7

The family labor contribution differed by the value of farm products sold. The operator provided about 68 percent of all labor on the smaller farms (sales under $5,000) but only 22 percent on the largest farms (sales of $100,000 and over) (table 2). The wife supplied about 12 percent of the labor on farms under $10,000 in sales, but only 1 percent on the largest farms. On the smaller farms, the other members of the family were counted on to supply slightly more labor than was the operator's wife, but on the large-scale farms, other family members also supplied only a small amount of the hours used (about 3 percent). Even so, the family on the large-scale farm worked more than three times as many hours as did the family on the small farm.

Size of farm operation had a positive effect on the need for hired labor. In 1966, the demand ranged from less than one-third of a man-year on small farms to over 5 man-years on the largest farms. Regular hired workers were seldom used to supply labor on farms with sales under $5,000. Not enough work or income was available to support a regular full-time hired hand on most small farms.

Seasonal workers were important; on the smaller farms, they were the major source of hired labor, although they provided only a small proportion of the total labor used on these farms. They worked over 3,900 hours on the largest farms.

Regional Variation in Labor Demand

The average hours of labor worked on a farm varied considerably by region, mainly because of the type of farming and the manpower resources.

Almost twice as many hours of labor were used to operate a farm in the Mountain Region as in the Appalachian and Southern Plains Regions (table 3). The Northeastern farms also used much labor, 62 percent more than did farms in the Appalachian Region. A great amount of the farming in the low labor-demand regions consists of small tobacco and cotton farms, whereas in the Northeast, dairy farms are large consumers of manpower.

The composition of the work force and the proportion of total man-hours accounted for by each kind of worker varied by region. The operator and his family supplied nearly all the labor on farms in the Midwestern Regions (Corn Belt, Lake States, and Northern Plains), but only 55 percent of the work on farms in the Pacific Region. In the latter region, large vegetable farms used a considerable amount of labor. Family labor was also used less in the Southern Regions than in the Midwest.

The operator furnished just over two-fifths of the labor in the Pacific and Delta States Regions. But he did more than two-thirds of the work in the Northern Plains and the Corn Belt (table 3).

Both the wife and other unpaid family workers supplied more labor than was hired in the Midwestern Regions. This did not hold true for the other regions. A third of the farm labor in the Delta States and Mountain Regions and nearly half in the Pacific Region was hired, compared with about one-tenth in the Midwest.

Regular workers comprised the main source of hired labor in all the regions except the Pacific. There, seasonal hired labor worked 50 percent more hours than did the regular hired workers.

Table 3.--Annual hours of labor per farm, all farms, and distribution of hours worked by family and hired labor, by region, 48 States, 1966

Region	Annual hours of labor per farm	Percentage of total hours worked by--						
		Family				Hired		
		Total	Operator	Wife	Other family	Total	Regular	Seasonal
	Hours	Percent						
Northeast	4,981	76	56	9	11	24	16	8
Lake States	4,481	91	63	12	16	9	6	3
Corn Belt	3,394	91	69	10	12	9	6	3
Northern Plains	3,951	90	68	8	14	10	6	4
Appalachian	3,075	80	55	10	15	20	11	9
Southeast	3,339	72	49	8	15	28	15	13
Delta States	3,169	70	45	9	16	30	19	11
Southern Plains	3,020	76	58	10	8	24	17	7
Mountain	5,909	65	48	8	9	35	27	8
Pacific	4,411	55	42	5	8	45	18	27

When all farms--those hiring and those not hiring labor--were considered, hired workers were not the major source of labor in any region. However, when only those farms hiring labor were considered, the demand for hired workers was, of course, more pronounced.

Effects of Farm Type on Labor Demand

As discussed earlier, size of farm and regional location have an impact on the total use of labor, as well as on the amount of hired versus unpaid family labor. Farm type also has an impact.

Certain types of farms, regardless of size, use more labor than do similarly sized farms of different types. The family can furnish only so much labor. If a farm produces a particular crop less adaptable to mechanization and new technologies and this crop requires a heavy infusion of labor either during seasonal peaks or year-round--it is logical to assume that hired labor will be needed. When the family supply of labor has reached its limit or a higher premium is placed on leisure or nonfarm work, labor must be hired.

Total labor input per farm by type varied from about 2,900 hours on other livestock farms to about 5,900 hours on vegetable farms. Dairy farms, other field crop farms, and fruit and nut farms also were heavy users of labor (table 4).

The source from which labor inputs were derived varied by farm type. The family supplied most of the labor inputs on three types of farms, but less than half on two types. Family labor was more extensively used on all kinds of livestock operations than on vegetable and fruit and nut farms. Livestock operations have a fairly constant need for labor throughout the year. They need only a small amount of seasonal labor; thus, the family is better able to furnish most of the labor. However, on vegetable and fruit and nut farms, there is a large demand for labor for a short period of time. The family is usually unable to meet the heavy demand and must hire much of the labor. In six types of farming operations, the operator provided more than 50 percent of the total labor--paid or unpaid. He did two-thirds of the work on cash grain and other livestock farms and over half on dairy farms, livestock ranches, general farms, and tobacco farms. Yet he was able to meet only a third of the total labor demand on vegetable and fruit and nut farms. The wife and other family members also did a lower proportion of the work on these two farm types than on any other kind of farm.

Hired help supplied a fifth of the labor input on all farm types. However, this varied from 14 percent on dairy and other livestock farms to about 55 percent on vegetable and fruit and nut farms. Although regular workers were relied on as the main source of hired help on eight types of farms, their contribution varied from 3 percent on tobacco farms to about a fourth on poultry farms and livestock ranches.

Seasonal workers did about as much of the work as any other kind of worker on fruit and nut farms and more than any other (42 percent), on vegetable farms. Tobacco farms were the only other type of operation using more seasonal than regular hired workers. Seasonal workers also did a good bit of work on cotton and other field crop farms. Their use on most livestock operations was very low, even less than that of the operator's wife. Overall, seasonal labor was more important on most farms in 1966 than it had been 2 years earlier.

Table 4.--Annual hours of labor per farm, all farms, and distribution of hours worked by family and hired labor, by type of farm, 48 States, 1966

Type of farm	Annual hours of labor per farm	Percentage of total hours worked by--						
		Family				Hired		
		Total	Operator	Wife	Other family	Total	Regular	Seasonal
	Hours	Percent						
Cash grain	3,310	82	65	6	11	18	12	6
Tobacco	3,383	85	52	13	20	15	3	12
Cotton	3,963	68	40	7	21	32	19	13
Other field crop	4,866	65	48	7	10	35	18	17
Vegetable	5,877	46	33	5	8	54	12	42
Fruit and nut	4,738	45	35	6	4	55	22	33
Poultry	3,807	71	48	15	8	29	25	4
Dairy	5,810	86	59	12	15	14	12	2
Other livestock	2,916	86	66	8	12	14	9	5
Livestock ranches	3,338	70	55	8	7	30	24	6
General	4,456	75	55	8	12	25	16	9
All types	3,730	80	58	9	13	20	12	8

FAMILY WORKERS

In the preceding section, labor on all farms and the effects of factors such as farm type, value of products sold, and regional location on labor practices were discussed. What were the labor inputs on farms relying solely on the family for labor? How did the farms using only family labor compare with the farms hiring some, or most, of their labor? Did the use of family members other than the operator make up for the labor input not hired? This section points out the similarities, as well as the variations, in labor needs on similar sizes and types of farms that differ in the practice of hiring or not hiring some of their labor inputs.

Labor Input by Kind of Family Worker

Operator

The proportion of total hours of labor supplied by different members of the family varied with the type and size of farm. On farms using only family labor, the operator supplied more than half the labor for every type and size of farm except tobacco farms with sales of $5,000 to $9,999. On these, the operator furnished only 37 percent of the labor (app. table 1). In general, operators of livestock ranches, cash grain, and other livestock farms did a larger proportion of the work than did operators of other types of farms that relied solely on family labor.

There were even wider ranges among types of farms where some labor was hired. Although the proportion of total hours worked by the operator varied among farm types, annual hours of labor also varied, from 1,636 on cotton to 3,513 on dairy farms. On most types of farms having sales under $10,000, operators supplied over half the labor input. On farms with sales of $10,000 to $20,000, operators of all but tobacco, cotton, vegetable, and fruit and nut farms supplied over half the labor input. However, on large farms (sales over $40,000), only operators of other livestock farms contributed over half the total labor needs. On other livestock farms with sales of $100,000 and over, the operator furnished only a third of the labor. Most operators on these largest farms, regardless of type of operations, furnished only about a fifth of total labor needs. They put in much more time than did farmers with smaller operations, but in percentage terms, they did only a fraction of the work. Thus, the commitment of an operator's energy and time to a farm enterprise is governed by a combination of size and type of operation.

Operator's Wife

The farm operator's wife often is a vital part of the farm work force. On farms hiring labor, wives averaged 397 hours annually. They worked the least hours on cash grain farms and the most on dairy farms. Overall, they supplied about 8 percent of total labor needs. They averaged more time on tobacco farms than on any other crop farm. For all sizes of farms, wives made a greater contribution on tobacco, poultry, and dairy farms.

On farms not hiring labor, wives did a greater proportion of the work than did their counterparts on farms hiring labor. Yet their hourly input was less. They averaged only 12 percent of the labor input on all farms, but contributed as much as 24 percent on poultry farms. As on farms hiring labor, wives' major contribution on farms using only

family labor was on poultry, dairy, and tobacco farms. However, on most other types of farms, wives' efforts were negligible.

Other Unpaid Family Workers

Unpaid family workers other than the operator and his wife were heavily relied on as a source of labor. The contribution varied considerably among farming operations. It also varied depending on whether labor was hired.

For farms not hiring labor, other unpaid family workers had the least annual hours of work on livestock ranches and the most on cotton and dairy farms. However, the major contribution by these workers was on tobacco farms with sales of $5,000 to $9,999. There, they did 49 percent of the work, averaging 2,736 hours during the year. This is the only instance where they worked more than the farm operator did. However, other family workers were important on cotton and vegetable farms with sales of $10,000 to $20,000. They supplied 40 percent of the labor on the vegetable farms and 45 percent on the cotton farms. On all types of farms with sales over $10,000, unpaid family workers were more valuable, in the proportion of labor supplied, to farmers not hiring than to those hiring labor.

For farms hiring labor, other unpaid family members worked about 15 percent of the annual hours on smaller farms (sales under $10,000), but did only 3 percent of the work on the largest farms. In hours, their greatest contribution was on farms with sales of $40,000 to $99,999. Here, they averaged nearly 800 hours a year. Their annual hours of work also varied by the type of large farm. They worked the least on vegetable farms and the most on dairy farms. Other unpaid family workers usually supplied more labor than did the wife.

Thus, type and size of farming operation affect the overall use of family workers. The needs changed by farm type and by size of operation within each type.

Labor Input by Farm Size

Farms vary considerably in their needs for labor because of size of operation. For farms not hiring labor, only abour 1,400 hours of labor were used on the smallest farms, compared with about 5,800 hours on the largest farms (table 5 and app. table 1).

In 1966, 38 percent of all farms hired no labor at any time. More than half (53 percent) of those with sales under $2,500 relied on the family as the only source of labor. At the other end of the spectrum, only 6 percent of farms with sales of $100,000 and over and 16 percent of those with sales of $40,000 to $100,000 functioned with just family labor.

The average farm hiring labor used 69 percent more during the year than the average farm not hiring labor. The total hours worked on the smallest farms that used only family labor were about 14 percent less than on similarly sized farms that hired labor. The larger the farm, the greater the difference in labor usage. Large-scale operations hiring labor used over three times as much labor as did similarly sized nonhiring farms.

Table 5.--Percentage of farms hiring labor and hours of family labor as percentage of total on farms hiring and not hiring labor, by value of farm products sold, 48 States, 1966

Value of farm products sold	Farms hiring labor					Farms not hiring labor			
	Percentage of farms hiring labor	Annual hours of family and hired labor per farm	Percentage of total hours worked by--			Annual hours of labor per farm	Percentage of total hours worked by--		
			Operator	Wife	Other family		Operator	Wife	Other family
	Percent	Hours	Percent			Hours	Percent		
$50-$2,499	47	1,654	65	11	14	1,416	70	12	18
$2,500-$4,999	61	2,945	63	12	15	2,450	73	11	16
$5,000-$9,999	68	4,136	61	11	14	3,448	75	13	12
$10,000-$19,999	71	5,151	60	10	12	4,598	70	11	19
$20,000-$39,999	76	6,357	54	8	11	4,944	68	11	21
$40,000-$99,999	84	8,948	39	4	9	5,130	72	8	20
$100,000 and over	94	18,504	20	2	3	5,815	82	4	14
All sales groups	62	4,406	54	8	12	2,613	71	12	17

Operator

The proportion of labor supplied by the operator is small compared with the amount needed to operate a large-scale farm. He supplied only a fifth of the labor on the largest farms hiring labor, compared with nearly two-thirds on the smallest farms (sales under $2,500) (table 5). However, in actual hours, the operator of the large farm worked 3-1/2 times as many hours during the year as the small farm operator did. On farms with sales under $40,000, the operator supplied over half the man-hours.

For farms using only family labor, the operators, as individuals or partners, furnished the major proportion of manpower on every size of farm. Their contribution ranged from 68 to 82 percent of the total. In hours, operators, including partners, averaged 991 to 4,768 hours per farm. On the largest farms, operators not hiring labor supplied 1,000 more hours than did operators hiring labor.

Other Family Workers

The proportion of labor supplied by the operator's wife varied by size of farm for farms hiring labor, as well as for those using only family labor. On small farms (sales under $10,000) hiring labor, wives did 11 to 12 percent of the work, but they contributed only a small proportion of the labor--2 percent--on the largest farms. On farms not hiring labor, except on farms with sales of $2,500 to $4,999, wives did a greater proportion of the work than did wives on farms hiring labor.

Other family members' contributions also varied by size of farm for farms hiring and not hiring labor. Family workers supplied a greater proportion of work on farms not hiring than on farms hiring labor, at almost every sales level. In hours, family workers on the nonhiring largest farms worked about 800 hours, compared with 555 hours on the largest farms hiring labor.

How could one farm that used just family labor function with only 31 percent of the labor used to operate another farm that hired some labor--value of products sold being nearly equal? On farms not hiring labor, the operator and his family may be more productive; they may apply more highly mechanized practices, with more efficient use of time. However, study data do not permit answers to these questions.

Generally, farms not hiring labor were those small enough, in value of products sold and hours of labor used, for the family to readily do all the work. However, many large farms (sales over $40,000) did not hire labor (table 6). These were mostly livestock farms requiring about the same labor input all year. Also, some large cash grain farms that could be highly mechanized used only family labor.

Land use practices also largely determined the need for hiring labor. For every type of farm, farms hiring labor were larger in area and usually had considerably more acreage in labor-intensive crops than did farms not hiring labor (app. tables 5 and 6).

Table 6.--Distribution of farms hiring labor, by value of farm products sold and type of farm, 48 States, 1966

Type of farm	Farms hiring labor with sales of--							Percentage of farms hiring labor in all sales groups
	$50 to $2,499	$2,500 to $4,999	$5,000 to $9,999	$10,000 to $19,999	$20,000 to $39,999	$40,000 to $99,999	$100,000 and over	
	Percent							
Cash grain	57	48	66	66	68	84	93	63
Tobacco	58	81	91	96	100	100	100	74
Cotton	68	100	92	96	100	93	100	78
Other field crop	31	62	73	91	88	100	100	68
Vegetable	49	86	100	91	93	100	100	66
Fruit and nut	64	88	87	100	100	100	100	84
Poultry	36	62	33	57	63	79	96	56
Dairy	37	51	63	65	79	88	95	64
Other livestock	39	58	64	71	73	78	89	55
Livestock ranches	40	67	40	76	85	95	100	60
General	55	62	64	79	81	96	100	67
All types	47	61	68	71	76	84	94	62

Labor Input by Farm Type

Farms Not Hiring Labor

The total labor input (in hours) for farms not hiring labor varied widely among types of farms. The average annual input of family labor on farms using only family labor was about 2,600 hours (app. table 1). The range was from 1,682 hours on fruit and nut farms to 4,769 hours on dairy farms. General farming also took considerable family effort. Tobacco, cotton, and other field crop farms used above average labor inputs, while livestock ranches and poultry and other livestock farms were below average in labor requirements. On all farms not hiring labor, the operator supplied 52 to 81 percent of the labor--the least on cotton and tobacco farms, the most on livestock ranches.

Family ability to meet labor needs differed markedly by size of farm. A cash grain farm with sales under $2,500 and with just family labor used only about 1,076 hours of total labor, whereas a cash grain farm with sales of $100,000 and over and with only family labor used more than 11,700 hours--nearly all of this furnished by the operator (app. table 1).

As will be shown in more detail in the next section, hired labor was necessary on many types of farms. On several types with sales over $20,000, farmers were unable to, or preferred not to, operate their farms with just family labor. For example, there were no tobacco, vegetable, or fruit and nut farms with sales over $20,000 that did not hire some labor. Also, all other field crop farms with sales over $40,000 used some hired labor. Few farms with sales of $100,000 and over appeared able to function with only family labor. Many of the farms that did function with just family labor were those whose livestock products exceeded 50 percent of their sales.

Farms Hiring Labor

Total labor input on farms hiring labor ranged from 1,654 hours on the smallest to over 18,500 hours on the largest operations. The family's portion varied from nearly 1,500 to over 4,654 hours--a sizable contribution (app. table 1).

Family input varied widely among farm types within each sales class. On small cash grain farms, the family worked 1,064 hours with the operator supplying nearly three-fourths of the labor. On the largest cash grain farms, the family supplied over 4,900 hours of labor, with the operator or partners furnishing most of it. There was a marked difference in labor usage on vegetable farms. The smallest of them used more than twice as much total and family labor as did similarly sized cash grain farms. The operator accounted for 61 percent of the labor on these vegetable farms. On the largest vegetable farms, over 40,700 hours of total labor were used. The operators supplied nearly all of the family labor input, but it amounted to only 10 percent of the total labor.

For farms with sales under $20,000, dairy operations generally used more labor (both total and family) than did any other type of farm. The operator worked about 60 percent of the hours on these dairy farms. For most farms above $20,000 in sales, dairy farms operated with an above-average labor input for a farm of a given size, but used considerably less labor than did similarly sized vegetable, tobacco, and cotton farms.

Regional Patterns of Family Labor Use

Proportion of Farms Hiring Labor

When all farms were considered, a different pattern emerged than when small farms were excluded. For example, table 7 includes all farms in each region. Because of the large number of small farms in the South, fewer farmers in the Southeast and Delta States Regions hired labor than in all other regions except the Corn Belt. However, when the number of farms was restricted to those with sales of $5,000 or more, farmers in the Delta States Region hired labor more often than did farmers in almost any other region. This study shows the same high percentage of Southern farms hiring labor that was found in 1964 in a study that excluded most small farms.1/

With the inclusion of small farms, data indicate that more than 40 percent of the farms in the Corn Belt, Southeast, and Delta States Regions did not hire labor. However, only 28 percent of the Southern Plains farmers operated with just family labor.

Labor usage varied immensely among regions on those farms not hiring labor. Farmers in the Southern Plains used the least annual labor per farm and Lake States farmers, the most. The low labor input in the Southern Plains is due to the heavy concentration of labor-extensive farms--other livestock farms and livestock ranches--in this area. These used very little labor during 1966. Northeast and Mountain Region farmers used a considerable amount of man-hours in their operations. Thus, only 38 percent of the farmers in the Northeast and 33 percent in the Mountain Region operated with only family labor. The long hours needed to operate dairy farms grossly affected the average annual hours worked per farm in these two areas. The Mountain Region also had some other field crop (potatoes and sugar beets) farmers who used large amounts of labor. In the Lake States and Northeast, the only ones other than dairy farmers to use much labor were poultry farmers. However, their labor inputs were much less than those of dairy farmers.

Many farmers in the Southeast and Delta States Regions did not hire labor, as their total manpower use was small compared with use in other regions. The large number of other livestock farms in these regions reduced the farm averages. Perhaps livestock farming is one of the few types of operations that permit many of these Southern farmers to have nonfarm employment. The 1,100 to 1,300 hours of operator time spent on these farms in 1966 would be equivalent to part-time farming and would permit holding a nonfarm job. Also, in the regions with heavy concentrations of other livestock farms, shifting a larger share of the operator's farmwork to other unpaid family workers made part-time nonfarm work possible.

Manpower Use on Farms Hiring Labor

The average U.S. farm that hired labor used at least 4,406 hours of labor to operate. Some 62 percent of all farms had to, or found it expedient to, hire labor (table 7). The average farmer hiring labor, hired

---

1/ Sellers, W.E., and Eichers, T.E. Farm Labor Inputs, 1964. U.S. Dept. Agr., Econ. Res. Serv., Stat. Bul. 438, June 1969.

Table 7.--Percentage of farms hiring labor and hours of family labor as percentage of total on farms hiring and not hiring labor, by region, 48 States, 1966

Region	Farms hiring labor					Farms not hiring labor			
	Percentage of farms hiring labor	Annual hours of family and hired labor per farm	Percentage of total hours worked by--			Annual hours of labor per farm	Percentage of total hours worked by--		
			Operator	Wife	Other family		Operator	Wife	Other family
	Percent	Hours	Percent			Hours	Percent		
Northeast	62	6,097	51	8	9	3,154	71	11	18
Lake States	62	4,999	60	11	16	3,643	69	13	18
Corn Belt	54	3,920	65	9	11	2,798	75	11	14
Northern Plains	65	4,457	64	8	14	3,034	77	10	13
Appalachian	71	3,474	53	9	14	2,098	64	13	23
Southeast	56	4,408	43	6	13	1,962	68	12	20
Delta States	59	3,944	42	8	10	1,671	67	13	20
Southern Plains	72	3,576	56	10	6	1,554	71	10	19
Mountain	67	7,191	43	7	7	3,264	68	13	19
Pacific	62	5,789	35	4	5	2,241	71	11	18
All regions	62	4,406	54	8	12	2,613	71	12	17

about a quarter of his manpower needs. Total needs in hours were the lowest on Appalachian farms and the highest on farms in the Mountain Region. Although Appalachian fruit and nut, tobacco, and other field crop farms required considerable labor, the low inputs on other livestock farms brought this region's average down to that of the lowest man-hour inputs per farm.

In the Mountain Region, most study farms hiring labor were large poultry, vegetable, and dairy farms--high labor users. No type of farm averaged less than 4,000 hours of labor (app. table 4). In this region, operators and their family members were able to supply only 57 percent of labor needs. Thus, they were quite dependent on hired labor.

In the Northeast and Lake States, farmers hiring labor had labor needs similar to those of farmers not hiring labor. Both regions had high inputs of labor, but the Northeast farmer hired more than did the Lake States farmer--32 percent, compared with 13 percent.

The operator did a greater percentage of the work in the Corn Belt, Northern Plains, and Lake States than did the operator in other regions. In each of the first two regions, the operator was able to furnish about two-thirds of the man-hours, and in the Lake States, 60 percent. Farm operators in the Pacific and Delta States Regions supplied a lower proportion of total labor than farmers did in other regions.

In general, farmers hiring labor still had to work more hours during the year than farmers relying on family labor. It is true that the operator relying on family labor furnished a greater proportion of labor, but the overall labor inputs for farms not hiring labor were only about 59 percent of the man-hours used on farms hiring labor. One of the basic reasons for this is that farmers hiring labor have larger volumes of sales, or production, than do farmers relying strictly on family labor. Also, most farms relying solely on family labor are operations that (1) normally use labor over long periods of time with less seasonal peaking, such as livestock (other than poultry and dairy operations); or (2) are highly mechanized, such as cash grain farms. This pattern of man-hour use holds true fairly well for each region.

HIRED WORKERS

Hired labor is an Achilles' heel of farmers--a small, but nevertheless vulnerable point of farming operations. Even if every farmer attempted optimal utility, or maximum efficiency, of his labor input, the demands would still vary by region, farm type, and size. However, many, if not most, farmers are operating at far from maximum efficiency--particularly in their use of labor. A farmer's demand for hired labor also depends on (1) his idiosyncrasies; (2) the value he places on leisure time; (3) the amount of lower priced labor he can hire as substitutes so he and his family can work in higher paying nonfarm employment; and (4) the availability of surplus manpower.

The amount of labor hired will depend on how much the operator and his family can contribute. The operator of the large farm generally puts in many more hours of work than does the operator of the small farm. But in total man-hours used on the large farms, hired man-hours far exceed those contributed by the family. Some types of farming operations require heavier amounts of labor; and thus, more labor is hired than on other types where the family can do most of the work. But just size and type do not determine how much labor will be used. In some areas, entire

families follow an age-old custom of working in the fields, or in dairy barns. In contrast, in other areas wives seldom work in the fields or in barns. In some regions, geographic features prohibit large-scale operations and thus make mechanization uneconomical.

In the study, we did not find how much additional labor could have been demanded--nor did we know the available supply. The data show the amount of labor used on the farms in the survey.

Hiring Practices by Farm Size

Proportion of Farms Hiring Labor

What proportion of farms hired labor? The answer, of course, depends on the definition of a farm. For farms with sales over $5,000, 73 percent hired labor. Many of these did not hire much, but could they have functioned without hiring any labor?

Only 62 percent of all farms with sales of $50 or more hired labor, and only 26 percent of total hours worked were hired. Less than half of the smallest farms hired any labor, and hired workers did only 10 percent of the work. However, there was a vast difference on the larger farms. About 94 percent of all farms with sales of $100,000 and over hired labor, and 75 percent of the hours used were hired. For several types of farms, all operators hired some help, even on the medium-sized operations. All tobacco and fruit and nut farms with sales of $20,000 and above hired labor. For farms with sales of $100,000 and over, seven of 11 types hired labor. It is doubtful that most of these larger farms could function without hired labor.

Amount of Labor and Kind of Hired Worker

The kind of worker the operator must hire differed by size of farm. Farms with sales under $10,000 made little use of regular workers. Neither the demand nor the returns on the operations were large enough, in most instances, to justify hiring full-time employees. Regular workers supplied less than 5 percent of the labor on these small farms (table 8). Seasonal workers were the mainstay of the small operator, as far as hired help was concerned, and provided about 67 percent of the hired hours.

The regular hired worker became an important source of labor on farms with sales of $40,000 and over. The large farm operator is faced with all the problems inherent in maintaining an efficient, dependable work force. To keep a good employee, he must compete with the nonfarm industries who provide workers with attractive incentives. If he does not know how to attract, or keep regular employees, the operator must mechanize so his family or seasonal workers can handle the peak workload; or he must keep the farm small enough so that his family alone can operate it. About 84 percent of farms with sales of $40,000 to $99,999 hired labor, with nearly half of all hours hired. Regular hired help supplied a third of the hours on these farms.

Regular workers were even more important on the largest farms. Fifty three percent of the hours of labor used to operate this size of farm was supplied by regular workers. The largest farms depend heavily on both regular and seasonal hired help. Seasonal workers supplied almost as much of the manpower as did the farm family (app. table 3).

Table 8.--Annual hours of farmwork and percentage of total hours worked by family and hired labor on farms hiring labor, by value of farm products sold, 48 States, 1966

Value of farm products sold	Annual hours of labor (family and hired)	Percentage of total hours worked by--			
		Hired			All family
		Total	Regular	Seasonal	
	Number	Percent			
$50-$2,499	1,654	10	3	7	90
$2,500-$4,999	2,945	10	3	7	90
$5,000-$9,999	4,136	14	5	9	86
$10,000-$19,999	5,151	18	10	8	82
$20,000-$39,999	6,357	27	18	9	73
$40,000-$99,999	8,948	48	33	15	52
$100,000 and over	18,504	75	53	22	25
All sales groups	4,406	26	16	10	74

Hiring Practices by Farm Type

Proportion of Farms Hiring Labor

Hiring practices not only differed among sizes of farms, but they varied widely within each size-group. The major factor is the type of farming. We noted previously that less than half the smallest farms ($50 to $2,499 in sales) hired labor. However, the proportion varied from 31 percent of other field crop farms to 68 percent of cotton farms. Even at this size, over half the farmers on five types of farming operations hired some labor (table 6).

For all farm sizes, poultry and other livestock farms were least likely to hire labor. Just a little over half of these operators hired any workers. Fruit and nut, cotton, and tobacco farmers were most likely to do so. Eighty-four percent of the fruit and nut farmers hired labor, and about three-fourths of all cotton and tobacco farmers did. In 1966, all fruit and nut farms with sales of $10,000 and above used hired labor. At no level of operations did all cash grain, poultry, dairy, or other livestock farmers hire labor.

Importance of Hired Labor

Just as labor inputs varied by type of farm, so did use of hired help. On tobacco farms, all hired workers supplied less than a fifth of

the manpower. Regular hired help was less important than seasoned help (table 9). However, on vegetable, fruit and nut, and other field crop operations, sizable labor inputs were necessary, peaking at harvesttime. Hired labor was quite important. About 63 percent of the hours needed annually to operate a vegetable farm were hired. Vegetable farming relied most extensively on seasonal hired labor. Seasonal workers furnished nearly half of all hours. They were also important to the fruit and nut operations, where more seasonal than regular labor (in terms of hours) were hired. Other field crop farms used regular and seasonal labor in about equal proportions.

Hiring practices on dairy farms presented a different pattern from those on crop farms. Although many hours were required to operate the average dairy farm, hired labor was not as important as it was on the crop farm. In the regions where dairying is primarily located, more families on dairy farms participated in the work than families did on other types of farms. Demand for hired labor is usually quite stable on dairy farms; 84 percent of this labor is regular, or year-round. This stability is due to the constant, year-round activities required on dairy farms.

Table 9.--Annual hours of farmwork and percentage of total hours worked by family and hired labor on farms hiring labor, by type of farm, 48 States, 1966

Type of farm	Annual hours of labor (family and hired)	Percentage of total hours worked by--			
		Hired			All family
		Total	Regular	Seasonal	
	Number	Percent			
Cash grain	3,813	25	17	8	75
Tobacco	3,625	18	4	14	82
Cotton	4,304	37	22	15	63
Other field crop	5,874	43	22	21	57
Vegetable	7,608	63	14	49	37
Fruit and nut	5,309	58	23	35	42
Poultry	5,025	39	34	5	61
Dairy	6,388	19	16	3	81
Other livestock	3,648	20	13	7	80
Livestock ranches	4,318	39	31	8	61
General	5,108	33	21	12	67
All types	4,406	26	16	10	74

Regional Differences in Use of Hired Labor

Hiring Practices by Farm Size

As noted earlier, hiring practices within a region are based on several factors, including size and type of farm. Another factor is the existing cultural traditions. Of these influences, type of farm is the most important in determining how much total labor is needed. The amount needed, in turn, determines how much of it will be hired.

Even given the same size and type of farming operations, operators in the South and West were more apt to hire labor than were operators in the Northeast and Midwest. In the South, 65 percent of all farmers hired labor in 1966. The proportion varied from 50 to 96 percent, depending on the size of operation. The amount of labor hired on Southern farms varied from 14 percent of total hours on the smallest farms to 83 percent on the large-scale operations (table 10).

In the Midwest, while nearly all the largest farms hired labor, only 58 percent of all farmers hired labor. Less than 10 percent of the labor was hired on Midwestern farms with sales under $20,000. Even on the largest operations, only 62 percent of the manpower was hired. Hours of hired work on Midwestern farms were less than a third of those in the West.

The hiring practices of Western farmers resemble those of Southern farmers. In the West, 68 percent of all farmers hired some help. Although only about half the smallest farms hired labor, 98 percent of the largest farms did. The proportion of labor (in hours) hired in the West varied from 11 percent on the smallest farms to 81 percent on the largest (table 10).

Hiring Practices by Farm Type

Within similar types of farms, there were some major regional differences in the proportion hiring labor. A greater proportion of Southern cash grain, tobacco, and dairy farms, and livestock ranches used hired labor than similar farms did in other regions. Other field crop, vegetable, and general farms in the West more often used hired labor than similar farms did in other regions. In all regions, fewer other livestock farms hired labor than did other types of farms.

The percentage of total labor (in hours) hired also differed by type of farm within and among regions. Southern cash grain farmers hired 47 percent of their hours, while similar Midwestern farmers hired only 14 percent of their labor input. Nearly half the hours on Southern dairy farms were hired, but only 10 percent of the hours needed to operate Midwestern dairy farms were hired. In the Northeast, vegetable and fruit and nut farms relied on hired labor more than did any other types. Seventy-nine percent of the labor on vegetable farms was hired; 53 percent on fruit and nut farms(table 11). In the Midwest, fruit and nut, and vegetable farms also hired most of their labor. Hired labor accounted for 90 percent of the man-hours on Midwestern fruit and nut farms; this far exceeded the hired labor used on fruit and nut farms in other regions.

Western cash grain and dairy farmers hired less of their labor than did any other Western farmers. However, Western poultry farmers hired twice as much labor as poultry farmers did in other regions. One reason

Table 10.--Percentage of farms hiring labor and of total hours hired per farm, by region and value of farm products sold, 48 States, 1966

Value of farm products sold	Percentage of farms hiring labor in--					Percentage of labor performed by hired workers in-- 1/				
	Northeast 2/	South	Midwest	West	All regions	Northeast	South	Midwest	West	All regions
	Percent									
$50-$2,499	41	50	40	49	47	9	14	5	11	10
$2,500-$4,999	44	78	47	66	61	3	18	5	14	10
$5,000-$9,999	71	81	60	73	68	12	19	6	38	14
$10,000-$19,999	67	87	65	83	71	23	32	9	32	18
$20,000-$39,999	80	87	69	88	76	32	46	14	40	27
$40,000-$99,999	93	94	76	93	84	55	62	30	54	48
$100,000 and over	100	96	90	98	94	83	83	62	81	75
All sales groups	62	65	58	68	62	32	34	14	44	26

1/ Includes only farms hiring labor.
2/ Northeast is as shown in the figure inside the front cover. South includes Appalachian, Southeast, and Delta States regions; Midwest includes Lake States, Corn Belt, and Northern Plains Regions; and West includes Southern Plains, Mountain, and Pacific Regions.

Table 11.--Percentage of farms hiring labor and of total hours hired per farm, by region and type of farm, 48 States, 1966

	Percentage of farms hiring labor in--					Percentage of labor performed by hired workers in--1/				
	Northeast 2/	South	Midwest	West	All regions	Northeast	South	Midwest	West	All regions
	Percent									
Cash grain	47	83	59	78	63	35	47	14	31	25
Tobacco	68	76	34	--	74	15	22	3	--	18
Cotton	--	73	100	94	78	--	31	3/	44	37
Other field crop	64	69	47	85	68	44	25	53	56	43
Vegetable	80	55	56	87	66	79	23	57	66	63
Fruit and nut	86	79	76	86	84	53	61	90	55	58
Poultry	74	53	50	61	56	36	33	29	68	39
Dairy	72	74	60	67	64	26	49	10	30	19
Other livestock	47	49	58	59	55	10	26	13	42	20
Livestock ranches	--	100	62	58	60	--	32	26	44	39
General	50	71	62	75	67	27	38	12	49	33
All types	62	65	58	68	62	32	34	14	44	26

1/ Includes only those farms hiring labor.
2/ Northeast is as shown in the figure inside the front cover. South includes Appalachian, Southeast, and Delta States Regions; Midwest includes Lake States, Corn Belt, and Northern Plains Regions; and West includes Southern Plains, Mountain, and Pacific Regions.
3/ Only 1 large cotton farm that hired 73 percent of its labor; an atypical farm for that region.

is that most of the Western poultry farms exceeded $40,000 in sales--they were large operations that normally hired a lot of labor. Other livestock farms, livestock ranches, and general farms in the West hired a much greater proportion of their labor needs than did similar farms in any other areas.

APPENDIX A: TABLES

Appendix table 1.--Annual hours of family labor on farms hiring and not hiring labor, by value of farm products sold and type of farm, 48 States, 1966

Value of farm products sold and type of farm	Farms hiring labor					Farms not hiring labor			
	Annual hours of total labor	Annual hours of family labor	Percentage of total hours worked by--			Annual hours of labor	Percentage of total hours worked by--		
			Operator	Wife	Other family		Operator	Wife	Other family
	Hrs.	Hrs.	Pct.	Pct.	Pct.	Hrs.	Pct.	Pct.	Pct.
$50-$2,499:									
Cash grain	1,200	1,064	73	6	10	1,076	75	10	15
Tobacco	1,575	1,474	66	15	12	2,081	61	16	23
Cotton	2,108	1,736	51	10	21	2,729	50	16	34
Other field crop	1,752	1,685	52	22	22	1,973	64	7	29
Vegetable	2,726	2,288	61	7	16	2,126	66	12	22
Fruit and nut	1,423	1,270	67	11	11	1,359	51	26	23
Poultry	1,689	1,499	61	18	10	1,391	71	25	4
Dairy	2,298	2,231	69	19	9	2,288	72	21	7
Other livestock	1,483	1,382	72	9	17	1,066	79	9	12
Livestock ranches	1,675	1,617	66	17	14	1,288	91	4	5
General	2,339	1,947	58	10	15	1,871	55	11	34
All types	1,654	1,490	65	11	14	1,416	70	12	18
$2,500-$4,999:									
Cash grain	2,234	2,004	73	8	9	1,779	86	5	9
Tobacco	3,151	2,857	59	14	18	3,893	62	12	26
Cotton	3,429	2,718	52	12	15	1/	1/	1/	1/
Other field crop	3,955	2,692	34	13	21	3,903	55	23	22
Vegetable	3,249	3,045	71	14	9	1,198	100	--	--
Fruit and nut	2,201	1,656	53	15	7	1,584	100	--	--
Poultry	3,003	2,566	57	20	8	1,833	64	36	--
Dairy	4,035	3,909	60	15	22	3,743	70	11	19
Other livestock	2,628	2,372	66	10	14	2,071	77	9	14
Livestock ranches	2,827	2,121	60	4	11	1,216	57	9	34
General	3,479	3,226	70	12	11	3,095	67	17	16
All types	2,945	2,638	63	12	15	2,450	73	11	16
$5,000-$9,999:									
Cash grain	3,001	2,797	75	8	10	2,595	80	11	9
Tobacco	4,757	4,269	53	13	24	5,583	37	14	49
Cotton	4,840	3,478	50	8	14	3,409	100	--	--
Other field crop	3,505	2,870	66	10	6	3,538	79	21	--
Vegetable	2,254	1,811	52	21	7	1/	1/	1/	1/
Fruit and nut	3,080	2,040	52	12	2	2,829	77	1	22
Poultry	3,378	1,679	43	3	4	2,046	57	33	10
Dairy	5,341	4,930	60	17	15	4,544	71	16	13
Other livestock	4,025	3,294	62	8	12	3,205	80	13	7
Livestock ranches	2,816	2,197	71	3	4	2,656	71	29	0
General	4,644	3,745	62	10	9	4,153	78	8	14
All types	4,136	3,569	61	11	14	3,448	75	13	12
$10,000-$19,999:									
Cash grain	4,061	3,439	68	6	11	3,306	79	7	14
Tobacco	6,649	4,550	40	11	18	5,598	58	14	28
Cotton	5,826	3,403	45	3	10	4,653	55	0	45
Other field crop	5,346	3,996	61	6	8	3,279	86	0	14
Vegetable	5,196	3,632	44	17	9	7,527	54	6	40
Fruit and nut	5,426	3,046	49	5	2	1/	1/	1/	1/
Poultry	3,764	3,294	61	19	7	2,856	67	21	12
Dairy	6,348	5,456	59	12	15	6,131	64	13	23
Other livestock	4,522	3,897	66	10	10	4,229	74	10	16
Livestock ranches	4,161	2,959	55	10	6	3,313	82	5	13
General	5,124	4,039	59	9	11	4,748	71	11	18
All types	5,151	4,198	60	10	12	4,598	70	11	19

Note: See footnotes at end of table.

Appendix table 1.--Annual hours of family labor on farms hiring and not hiring labor, by value of farm products sold and type of farm, 48 States, 1966--Continued

Value of farm products sold and type of farm	Farms hiring labor					Farms not hiring labor			
	Annual hours of total labor	Annual hours of family labor	Percentage of total hours worked by--			Annual hours of labor	Percentage of total hours worked by--		
			Operator	Wife	Other family		Operator	Wife	Other family
	Hrs.	Hrs.	Pct.	Pct.	Pct.	Hrs.	Pct.	Pct.	Pct.
$20,000-$39,999:									
Cash grain	5,168	3,902	58	6	11	3,878	74	8	18
Tobacco	9,416	4,579	32	7	10	1/	0	0	0
Cotton	5,116	3,783	40	2	5	1/	0	0	0
Other field crop	6,615	3,860	45	3	10	3,977	70	0	30
Vegetable	9,864	3,444	27	6	2	0	0	0	0
Fruit and nut	7,388	3,443	38	4	5	1/	0	0	0
Poultry	4,183	3,373	53	17	11	3,397	65	19	16
Dairy	7,581	5,951	55	9	14	6,517	64	13	23
Other livestock	5,581	4,465	60	8	12	5,028	70	10	20
Livestock ranches	6,278	4,099	47	12	6	4,006	84	0	16
General	6,869	4,621	53	5	9	5,434	61	13	26
All types	6,357	4,654	54	8	11	4,944	68	11	21
$40,000-$99,999:									
Cash grain	8,478	3,983	40	2	5	4,711	71	6	23
Tobacco	15,880	3,504	17	2	3	1/	0	0	0
Cotton	17,893	3,029	14	0	2	4,471	91	0	9
Other field crop	10,466	4,557	35	3	6	1/	0	0	0
Vegetable	18,316	4,154	21	1	1	1/	0	0	0
Fruit and nut	11,992	3,390	22	2	4	1/	0	0	0
Poultry	5,955	4,025	45	12	11	4,018	67	17	16
Dairy	10,687	6,038	43	5	8	8,429	63	13	24
Other livestock	6,449	4,383	54	4	10	4,813	75	6	19
Livestock ranches	7,946	3,440	37	1	5	3,842	99	1	0
General	10,558	4,461	33	3	6	5,883	77	12	11
All types	8,948	4,653	39	4	9	5,130	72	8	20
$100,000 and over:									
Cash grain	14,414	4,915	28	2	4	3/11,729	98	2	0
Tobacco	11,697	1,820	16	0	0	2/	2/	2/	2/
Cotton	37,678	3,853	9	0	1	2/	2/	2/	2/
Other field crop	17,125	3,666	20	1	1	2/	2/	2/	2/
Vegetable	40,713	4,281	10	1	0	2/	2/	2/	2/
Fruit and nut	36,634	3,641	9	1	0	2/	2/	2/	2/
Poultry	14,365	4,041	22	4	2	5,234	64	16	20
Dairy	18,250	4,674	24	1	1	3/9,219	99	1	0
Other livestock	12,410	5,154	33	2	7	4,351	73	4	23
Livestock ranches	11,692	3,563	24	2	4	2/	2/	2/	2/
General	26,050	4,317	16	1	0	2/	2/	2/	2/
All types	18,504	4,563	20	2	3	5,815	82	4	14
All economic classes:									
Cash grain	3,813	2,857	60	6	9	2,461	78	8	14
Tobacco	3,625	2,954	51	12	18	2,861	57	15	28
Cotton	4,304	2,712	38	6	19	2,785	52	15	33
Other field crop	5,874	3,370	43	6	8	2,759	67	13	20
Vegetable	7,608	2,833	29	4	4	2,435	60	10	30
Fruit and nut	5,309	2,247	33	6	3	1,682	66	14	20
Poultry	5,025	3,050	42	12	7	2,263	65	24	11
Dairy	6,388	5,153	55	12	14	4,769	67	14	19
Other livestock	3,648	2,917	61	8	11	2,026	77	10	13
Livestock ranches	4,318	2,617	47	7	7	1,855	81	11	8
General	5,108	3,438	51	7	9	3,143	67	12	21
All types	4,406	3,250	54	8	12	2,613	71	12	17

1/ All of these farms hired some labor.
2/ All farms above $100,000 in sales hired some labor.
3/ Some farms had more than one operator.

Appendix table 2.--Annual hours of family and hired labor on farms hiring labor, by value of farm products sold and type of farm, 48 States, 1966

Type of farm and value of farm products sold	Annual hours of family and hired labor	Percentage of total hours worked by--						
		Family workers				Hired workers		
		Total	Operator	Wife	Other	Total	Regular	Seasonal
	Number	Percent						
Cash grain:								
$50-$2,499	1,200	89	73	6	10	11	7	4
$2,500-$4,999	2,234	90	73	8	9	10	5	5
$5,000-$9,999	3,001	93	75	8	10	7	2	5
$10,000-$19,999	4,061	85	68	6	11	15	8	7
$20,000-$39,999	5,168	75	58	6	11	25	16	9
$40,000-$99,999	8,478	47	40	2	5	53	39	14
$100,000 and over	14,414	34	28	2	4	66	57	9
All cash grain farms	3,813	75	60	6	9	25	17	8
Tobacco:								
$50-$2,499	1,575	94	66	15	12	6	0	6
$2,500-$4,999	3,151	91	59	14	18	9	1	8
$5,000-$9,999	4,757	90	53	13	24	10	0	10
$10,000-$19,999	6,649	68	40	11	18	32	9	23
$20,000-$39,999	9,416	49	32	7	10	51	15	36
$40,000-$99,999	15,880	22	17	2	3	78	33	45
$100,000 and over	11,697	16	16	--	--	84	72	12
All tobacco farms	3,625	82	51	12	18	18	4	14
Cotton:								
$50-$2,499	2,108	82	51	10	21	18	1	17
$2,500-$4,999	3,429	79	52	12	15	21	4	17
$5,000-$9,999	4,840	72	50	8	14	28	14	14
$10,000-$19,999	5,826	58	45	3	10	42	26	16
$20,000-$39,999	8,116	47	40	2	5	53	38	15
$40,000-$99,999	17,893	16	14	0	42	84	52	32
$100,000 and over	37,678	10	9	--	1	90	68	22
All cotton farms	4,304	63	38	6	19	37	22	15
Other field crops:								
$50-$2,499	1,752	96	52	22	22	4	4	--
$2,500-$4,999	3,955	68	34	13	21	32	13	19
$5,000-$9,999	3,505	82	66	10	6	18	7	11
$10,000-$19,999	5,346	75	61	6	8	25	6	19
$20,000-$39,999	6,615	58	45	3	10	42	23	19
$40,000-$99,999	10,466	44	35	3	6	56	35	21
$100,000 and over	17,125	22	20	1	1	78	44	34
All other field crop farms	5,874	57	43	6	8	43	22	21
Vegetable:								
$50-$2,499	2,726	84	61	7	16	16	8	8
$2,500-$4,999	3,249	94	71	14	9	6	--	6
$5,000-$9,999	2,254	80	52	21	7	20	--	20
$10,000-$19,999	5,196	70	44	17	9	30	7	23
$20,000-$39,999	9,864	35	27	6	2	65	18	47
$40,000-$99,999	18,316	23	21	1	1	77	16	61
$100,000 and over	40,713	10	10	--	--	90	19	71
All vegetable farms	7,608	37	29	4	4	63	14	49
Fruit and nut:								
$50-$2,499	1,423	89	67	11	11	11	--	11
$2,500-$4,999	2,201	75	53	15	7	25	9	16
$5,000-$9,999	3,080	66	52	12	2	34	--	34
$10,000-$19,999	5,426	56	49	5	2	44	5	39
$20,000-$39,999	7,388	47	38	4	5	53	25	28
$40,000-$99,999	11,992	28	22	2	4	72	22	50
$100,000 and over	36,634	10	9	1	--	90	52	38
All fruit and nut farms	5,309	42	33	6	3	58	23	35

Appendix table 2.--Annual hours of family and hired labor on farms hiring labor, by value of farm products sold and type of farm, 48 States, 1966--Continued

Type of farm and value of farm products sold	Annual hours of family and hired labor	Percentage of total hours worked by--						
		Family workers				Hired workers		
		Total	Operator	Wife	Other	Total	Regular	Seasonal
	Number	Percent						
Poultry:								
$50-$2,499	1,689	89	61	18	10	11	--	11
$2,500-$4,999	3,003	85	57	20	8	15	13	2
$5,000-$9,999	3,378	50	43	3	4	50	49	1
$10,000-$19,999	3,764	87	61	19	7	13	8	5
$20,000-$39,999	4,183	81	53	17	11	19	15	4
$40,000-$99,999	5,955	68	45	12	11	32	25	7
$100,000 and over	14,365	28	22	4	2	72	67	5
All poultry farms	5,025	61	42	12	7	39	34	5
Dairy:								
$50-$2,499	2,298	97	69	19	9	3	--	3
$2,500-$4,999	4,035	97	60	15	22	3	1	2
$5,000-$9,999	5,341	92	60	17	15	8	6	2
$10,000-$19,999	6,348	86	59	12	15	14	11	3
$20,000-$39,999	7,581	78	55	9	14	22	19	3
$40,000-$99,999	10,687	56	43	5	8	44	39	5
$100,000 and over	18,250	26	24	1	1	74	71	3
All dairy farms	6,388	81	55	12	14	19	16	3
All other livestock:								
$50-$2,499	1,483	93	72	9	12	7	2	5
$2,500-$4,999	2,628	90	66	10	14	10	4	6
$5,000-$9,999	4,025	82	62	8	12	18	7	11
$10,000-$19,999	4,522	86	66	10	10	14	9	5
$20,000-$39,999	5,581	80	60	8	12	20	13	7
$40,000-$99,999	6,449	68	54	4	10	32	25	7
$100,000 and over	12,410	42	33	2	7	58	47	11
All other livestock farms	3,648	80	61	8	11	20	13	7
Livestock ranches:								
$50-$2,499	1,675	96	65	17	14	4	--	4
$2,500-$4,999	2,827	75	60	4	11	25	22	3
$5,000-$9,999	2,816	78	71	3	4	22	13	9
$10,000-$19,999	4,161	71	55	10	6	29	24	5
$20,000-$39,999	6,278	65	47	12	6	35	23	12
$40,000-$99,999	7,946	43	37	1	5	57	46	11
$100,000 and over	11,692	30	24	2	4	70	61	9
All livestock ranches	4,318	61	47	7	7	39	31	8
General:								
$50-$2,499	2,339	83	58	10	15	17	8	9
$2,500-$4,999	3,479	93	70	12	11	7	2	5
$5,000-$9,999	4,644	81	62	10	9	19	14	5
$10,000-$19,999	5,124	79	59	9	11	21	11	10
$20,000-$39,999	6,869	67	53	5	9	33	19	14
$40,000-$99,999	10,558	42	33	3	6	58	31	27
$100,000 and over	26,050	17	16	1	--	83	67	16
All general farms	5,108	67	51	7	9	33	21	12
All types:								
$50-$2,499	1,654	90	65	11	14	10	3	7
$2,500-$4,999	2,945	90	63	12	15	10	3	7
$5,000-$9,999	4,136	86	61	11	14	14	5	9
$10,000-$19,999	5,151	82	60	10	12	18	10	8
$20,000-$39,999	6,357	73	54	8	11	27	18	9
$40,000-$99,999	8,948	52	39	4	9	48	33	15
$100,000 and over	18,504	25	20	2	3	75	53	22
All farms	4,406	74	54	8	12	26	16	10

Appendix table 3.--Annual hours of family and hired labor on farms hiring labor, by region and value of farm products sold, 48 States, 1966

Region and value of farm products sold	Annual hours of family and hired labor	Annual hours of labor by--					
		Family workers			Hired workers		
		Total	Operator	Other 1/	Total	Regular	Seasonal
	Hours						
Northeast:							
$50-$2,499	1,618	1,478	1,149	329	140	71	69
$2,500-$4,999	3,152	3,066	1,792	1,274	86	--	86
$5,000-$9,999	4,951	4,378	3,163	1,215	573	294	279
$10,000-$19,999	6,508	5,009	3,724	1,285	1,499	1,173	326
$20,000-$39,999	7,938	5,391	4,097	1,294	2,547	1,891	656
$40,000-$99,999	10,629	4,831	3,938	893	5,798	4,139	1,659
$100,000 and over	23,827	4,109	3,610	499	19,718	8,921	10,797
All Northeast	6,097	4,154	3,102	1,052	1,943	1,279	664
Appalachian:							
$50-$2,499	1,501	1,375	1,036	339	126	36	90
$2,500-$4,999	3,125	2,791	1,842	949	334	125	209
$5,000-$9,999	4,115	3,678	2,440	1,238	437	73	364
$10,000-$19,999	5,893	4,150	2,770	1,380	1,743	704	1,039
$20,000-$39,999	7,601	4,171	3,231	940	3,430	1,937	1,493
$40,000-$99,999	11,969	3,768	3,359	409	8,201	5,913	2,283
$100,000 and over	17,050	2,669	2,330	339	14,381	12,607	1,774
All Appalachian	3,474	2,629	1,842	787	845	449	396
Southeast:							
$50-$2,499	2,090	1,794	1,180	614	296	52	244
$2,500-$4,999	2,992	2,224	1,514	710	768	253	515
$5,000-$9,999	5,217	4,296	2,515	781	921	169	752
$10,000-$19,999	5,906	3,813	2,797	1,016	2,093	1,081	1,012
$20,000-$39,999	6,078	3,091	2,554	537	2,987	2,075	912
$40,000-$99,999	9,717	3,145	2,525	620	6,572	4,277	2,295
$100,000 and over	23,758	4,314	3,977	337	19,444	13,412	6,032
All Southeast	4,408	2,733	1,875	858	1,675	917	758
Delta States:							
$50-$2,499	1,984	1,646	1,069	577	338	35	303
$2,500-$9,999	2,798	2,317	1,376	941	481	108	373
$5,000-$9,999	3,308	2,226	1,628	598	1,082	730	352
$10,000-$19,999	5,178	3,587	2,611	976	1,591	850	741
$20,000-$39,999	6,803	3,839	2,951	888	2,964	2,012	952
$40,000-$99,999	10,945	3,378	2,832	546	7,567	5,207	2,360
$100,000 and over	22,013	3,813	3,454	359	18,200	14,858	3,342
All Delta States	3,944	2,344	1,647	697	1,600	990	610
Corn Belt:							
$50-$2,499	1,459	1,370	1,017	353	89	35	54
$2,500-$4,999	2,254	2,155	1,740	415	99	21	78
$5,000-$9,999	3,262	3,118	2,354	764	144	38	106
$10,000-$19,999	4,278	3,850	2,937	913	428	244	184
$20,000-$39,999	5,176	4,518	3,363	1,155	658	392	266
$40,000-$99,999	6,388	4,507	3,570	937	1,881	1,406	475
$100,000 and over	10,822	5,225	4,137	1,088	5,597	3,843	1,754
All Corn Belt	3,920	3,325	2,539	786	595	377	218
Lake States:							
$50-$2,499	1,517	1,437	1,093	344	80	---	80
$2,500-$4,999	3,493	3,384	2,319	1,065	109	---	109
$5,000-$9,999	4,744	4,390	2,925	1,465	354	194	160
$10,000-$19,999	5,915	5,359	3,614	1,745	556	387	169
$20,000-$39,999	6,614	5,621	3,949	1,672	993	715	278
$40,000-$99,999	8,267	5,672	3,874	1,793	2,595	1,966	629
$100,000 and over	15,719	3,773	3,452	321	11,946	8,383	3,563
All Lake States	4,999	4,369	2,994	1,375	630	417	213

Note: See footnote at end of table.

Appendix table 3.--Annual hours of family and hired labor on farms hiring labor, by region and value of farm products sold, 48 States, 1966--Continued

Region and value of farm products sold	Annual hours of family and hired labor	Annual hours of labor by--					
		Family workers			Hired workers		
		Total	Operator	Other 1/	Total	Regular	Seasonal
	Hours						
Northern Plains:							
$50-$2,499	1,934	1,867	1,490	377	67	---	67
$2,500-$4,999	3,505	3,205	2,235	970	300	262	38
$5,000-$9,999	3,776	3,555	2,630	925	221	120	101
$10,000-$19,999	4,221	3,868	2,993	875	353	144	209
$20,000-$39,999	5,407	4,574	3,294	1,280	833	498	335
$40,000-$99,999	6,583	4,754	3,629	1,125	1,829	1,282	547
$100,000 and over	10,630	5,193	4,073	1,120	5,437	4,105	1,332
All Northern Plains	4,457	3,826	2,860	966	631	394	237
Southern Plains:							
$50-$2,499	1,523	1,439	1,061	378	84	32	52
$2,500-$4,999	2,670	2,466	1,907	559	204	65	139
$5,000-$9,999	3,907	3,136	2,508	628	771	499	272
$10,000-$19,999	4,746	3,098	2,506	592	1,648	1,101	547
$20,000-$39,999	6,302	4,173	3,203	970	2,129	1,433	696
$40,000-$99,999	8,081	3,569	2,889	680	4,512	3,692	820
$100,000 and over	15,264	3,346	2,630	716	11,918	10,324	1,594
All Southern Plains	3,576	2,566	1,998	568	1,010	716	294
Mountain:							
$50-$2,499	2,244	2,004	1,591	413	240	191	49
$2,500-$4,999	3,600	2,979	2,470	509	621	443	178
$5,000-$9,999	4,924	3,271	2,571	700	1,653	1,022	631
$10,000-$19,999	5,519	4,388	3,157	1,231	1,131	685	446
$20,000-$39,999	8,017	5,135	3,698	1,437	2,882	2,076	806
$40,000-$99,999	10,329	5,554	4,365	1,189	4,775	3,340	1,435
$100,000 and over	31,807	5,251	4,149	1,102	26,556	23,202	3,354
All Mountain	7,191	4,090	3,098	992	3,101	2,368	733
Pacific:							
$50-$2,499	1,499	1,259	951	308	240	125	115
$2,500-$4,999	2,110	1,732	1,411	321	378	18	360
$5,000-$9,999	4,840	2,069	1,631	438	2,771	434	2,337
$10,000-$19,999	5,027	2,964	2,465	499	2,063	639	1,424
$20,000-$39,999	7,018	3,593	2,737	856	3,425	1,712	1,713
$40,000-$99,999	10,546	4,112	3,196	916	6,434	2,966	3,468
$100,000 and over	24,506	4,751	4,144	607	19,755	8,855	10,900
All Pacific	5,789	2,552	2,024	528	3,237	1,294	1,943
All regions:							
$50-$2,499	1,654	1,490	1,086	404	164	42	122
$2,500-$4,999	2,945	2,638	1,852	786	307	109	198
$5,000-$9,999	4,136	3,569	2,524	1,045	567	220	347
$10,000-$19,999	5,151	4,198	3,065	1,133	953	526	427
$20,000-$39,999	6,357	4,654	3,444	1,210	1,703	1,107	596
$40,000-$99,999	8,948	4,684	3,496	1,188	4,264	2,921	1,343
$100,000 and over	18,504	4,563	3,791	772	13,941	9,749	4,192
All 48 States	4,406	3,250	2,365	885	1,156	699	457

1/ Other family includes wife and other unpaid family.

Appendix table 4.--Annual hours of family and hired labor on farms hiring labor, by region and type of farm, 48 States, 1966

Region and type of farm	Annual hours of family and hired labor	Annual hours of labor by--						
		Family workers				Hired workers		
		Total	Operator	Wife	Other family	Total	Regular	Seasonal
	Hours							
Northeast:								
Cash grain	2,264	1,483	1,263	136	84	781	714	67
Tobacco	3,779	3,221	2,334	583	304	558	247	311
Cotton	---	---	---	---	---	---	---	---
Other field crop	8,580	4,797	3,283	425	1,089	3,783	1,444	2,339
Vegetable	12,863	2,660	2,378	189	93	10,203	2,104	8,099
Fruit and nut	6,157	2,895	2,165	562	168	3,262	819	2,443
Poultry	5,385	3,451	2,607	510	334	1,934	1,820	114
Dairy	7,429	5,472	4,031	652	789	1,957	1,777	180
Other livestock	2,640	2,373	1,641	294	438	267	181	86
Livestock ranches	---	---	---	---	---	---	---	---
General	5,045	3,660	3,247	151	262	1,385	840	545
All types	6,097	4,154	3,102	502	550	1,943	1,279	664
Appalachian:								
Cash grain	4,653	2,078	1,804	47	227	2,575	2,057	518
Tobacco	3,464	2,852	1,817	423	612	612	119	493
Cotton	3,279	2,516	1,827	217	472	763	513	250
Other field crop	4,271	2,606	1,881	267	458	1,665	1,009	566
Vegetable	1,478	1,194	891	101	202	284	---	284
Fruit and nut	7,285	3,526	3,209	17	300	3,759	644	3,115
Poultry	4,065	3,219	2,199	410	610	846	646	200
Dairy	5,484	3,782	2,611	544	627	1,702	1,467	235
Other livestock	2,302	1,874	1,569	125	180	428	266	162
Livestock ranches	---	---	---	---	---	---	---	---
General	5,105	3,187	2,535	276	376	1,918	1,307	611
All types	3,474	2,629	1,842	321	466	845	449	396
Southeast:								
Cash grain	2,483	2,245	1,598	282	365	598	369	229
Tobacco	5,342	3,992	2,178	543	1,271	1,350	440	910
Cotton	2,205	1,493	940	107	446	712	229	483
Other field crop	4,181	2,804	2,221	167	416	1,377	671	706
Vegetable	5,596	3,369	1,982	512	875	2,227	746	1,481
Fruit and nut	8,058	2,397	2,273	116	8	5,661	3,245	2,416
Poultry	4,542	2,824	1,905	695	224	1,718	1,613	105
Dairy	12,265	4,311	3,413	417	481	7,954	6,489	1,465
Other livestock	3,067	1,997	1,757	63	177	1,070	757	313
Livestock ranches	2,767	1,887	1,598	124	165	880	535	345
General	5,427	3,466	2,296	217	953	1,961	1,038	923
All types	4,408	2,733	1,875	269	589	1,675	917	758
Delta States:								
Cash grain	6,162	2,863	2,341	99	423	3,299	2,123	1,176
Tobacco	0	0	0	0	0	0	0	0
Cotton	4,880	3,116	1,503	324	1,289	1,764	981	783
Other field crop	5,966	5,398	3,080	1,720	598	568	0	568
Vegetable	3,675	3,665	2,885	0	780	10	0	10
Fruit and nut	0	0	0	0	0	0	0	0
Poultry	4,345	2,613	1,882	614	117	1,732	1,501	231
Dairy	5,742	3,984	2,624	672	688	1,758	1,461	297
Other livestock	1,587	1,275	920	162	193	312	82	230
Livestock ranches	0	0	0	0	0	0	0	0
General	4,712	2,867	2,118	529	220	1,845	1,089	756
All types	3,944	2,344	1,647	302	395	1,600	990	610
Corn Belt:								
Cash grain	3,251	2,703	2,159	223	321	548	352	196
Tobacco	0	0	0	0	0	0	0	0
Cotton	3,893	1,040	1,040	0	0	2,853	1,303	1,550
Other field crop	10,985	7,601	5,529	1,536	536	3,384	1,069	2,315
Vegetable	5,591	2,490	2,179	236	75	3,101	673	2,428
Fruit and nut	35,767	1,667	857	810	0	34,100	14,525	19,575
Poultry	6,881	4,193	2,645	923	625	2,688	1,599	1,089
Dairy	5,496	4,818	3,340	710	768	678	497	181
Other livestock	3,863	3,403	2,609	343	451	460	308	152
Livestock ranches	0	0	0	0	0	0	0	0
General	3,671	3,209	2,561	465	183	462	266	196
All types	3,920	3,325	2,539	357	429	595	377	218

Appendix table 4.--Annual hours of family and hired labor on farms hiring labor, by region and type of farm, 48 States, 1966--Continued

Region and type of farm	Annual hours of family and hired labor	Annual hours of labor by--						
		Family workers				Hired workers		
		Total	Operator	Wife	Other family	Total	Regular	Seasonal
	Hours							
Lake States:								
Cash grain	3,104	2,734	2,132	193	409	370	129	241
Tobacco	2,134	2,004	2,004	0	0	130	0	130
Cotton	0	0	0	0	0	0	0	0
Other field crop	11,210	3,597	2,898	63	636	7,613	5,120	2,493
Vegetable	1,767	683	452	89	142	1,084	208	876
Fruit and nut	6,311	2,497	1,612	563	322	3,814	1,994	1,820
Poultry	3,698	3,007	2,031	302	674	691	369	322
Dairy	6,151	5,560	3,619	828	1,113	591	478	113
Other livestock	4,015	3,547	2,701	333	513	468	305	163
Livestock ranches	0	0	0	0	0	0	0	0
General	4,433	3,987	2,752	550	685	446	237	209
All types	4,999	4,369	2,994	577	798	630	417	213
Northern Plains:								
Cash grain	3,988	3,451	2,764	252	435	537	331	206
Tobacco	0	0	0	0	0	0	0	0
Cotton	0	0	0	0	0	0	0	0
Other field crop	8,312	3,096	2,362	361	373	5,216	1,266	3,950
Vegetable	0	0	0	0	0	0	0	0
Fruit and nut	0	0	0	0	0	0	0	0
Poultry	5,781	4,342	3,134	535	673	1,439	1,269	170
Dairy	5,425	4,920	3,247	870	803	505	359	146
Other livestock	4,781	4,116	2,919	378	819	665	441	224
Livestock ranches	3,602	2,666	2,122	263	281	936	760	176
General	4,946	4,231	3,189	398	644	715	315	400
All types	4,457	3,826	2,860	343	623	631	394	237
Southern Plains:								
Cash grain	4,126	2,671	2,164	264	243	1,455	1,037	418
Tobacco	0	0	0	0	0	0	0	0
Cotton	5,246	2,935	2,340	245	350	2,311	1,595	716
Other field crop	2,482	1,886	1,886	0	0	596	303	293
Vegetable	2,761	2,632	2,236	384	12	129	0	129
Fruit and nut	3,015	659	544	115	0	2,356	2,166	190
Poultry	2,514	1,683	831	763	89	831	768	63
Dairy	6,385	4,715	2,985	1,172	558	1,670	1,389	281
Other livestock	2,847	2,307	1,824	312	171	540	360	180
Livestock ranches	3,130	2,150	1,649	361	140	980	766	214
General	3,718	3,027	2,347	552	128	691	415	276
All types	3,576	2,566	1,998	362	206	1,010	716	294
Mountain:								
Cash grain	4,133	3,117	2,552	341	224	1,016	755	261
Tobacco	0	0	0	0	0	0	0	0
Cotton	5,593	3,043	2,564	386	93	2,550	2,037	513
Other field crop	6,949	4,335	3,466	344	525	2,614	1,708	906
Vegetable	8,796	4,622	3,195	906	521	4,174	1,488	2,686
Fruit and nut	4,972	2,768	2,047	371	350	2,204	644	1,560
Poultry	13,225	4,138	3,301	837	0	9,087	7,523	1,564
Dairy	8,277	6,175	4,693	729	753	2,102	1,727	375
Other livestock	7,694	4,177	2,974	510	693	3,517	2,535	982
Livestock ranches	7,254	3,700	2,899	260	541	3,554	2,962	592
General	8,431	3,856	3,016	457	383	4,575	3,952	623
All types	7,191	4,090	3,098	467	525	3,101	2,368	733
Pacific:								
Cash grain	5,085	3,368	2,922	91	355	1,717	1,086	631
Tobacco	0	0	0	0	0	0	0	0
Cotton	6,057	3,542	3,073	197	272	2,515	1,578	937
Other field crop	13,188	3,634	2,942	269	423	9,554	3,546	6,008
Vegetable	22,322	4,221	3,667	418	136	18,101	3,855	14,246
Fruit and nut	4,054	2,010	1,597	241	172	2,044	637	1,407
Poultry	17,520	4,908	3,191	622	1,095	12,612	12,174	438
Dairy	8,303	5,130	3,712	628	790	3,173	2,879	294
Other livestock	4,267	2,054	1,613	144	297	2,213	808	1,405
Livestock ranches	4,677	2,577	1,879	4	694	2,100	1,505	595
General	6,058	2,333	1,987	95	251	3,725	1,196	2,529
All types	5,789	2,552	2,024	224	304	3,237	1,294	1,943

Appendix table 5.--Acreage on farms hiring and not hiring labor, by value of farm products sold and selected crops, 48 States, 1966

Value of farm products sold and selected crops	Average acreage per farm	
	Hiring labor	Not hiring labor
	Acres	
$50-$2,499:		
Total acreage	117	95
Cultivated	24	18
Hay	8	5
Grain	7	5
Other	7	6
Pasture	56	44
Other uncultivated	36	32
$2,500-$4,999:		
Total acreage	216	168
Cultivated	53	55
Hay	15	17
Grain	21	22
Other	15	15
Pasture	116	59
Other uncultivated	46	54
$5,000-$9,999:		
Total acreage	312	293
Cultivated	122	113
Hay	26	25
Grain	52	56
Other	43	29
Pasture	113	118
Other uncultivated	76	62
$10,000-$19,999:		
Total acreage	444	374
Cultivated	186	158
Hay	38	33
Grain	90	86
Other	56	38
Pasture	170	153
Other uncultivated	88	63
$20,000-$39,999:		
Total acreage	764	425
Cultivated	281	234
Hay	53	33
Grain	140	136
Other	87	64
Pasture	341	121
Other uncultivated	142	69

Appendix table 5.--Acreage on farms hiring and not hiring labor, by value of farm products sold and selected crops, 48 States, 1966--Continued

Value of farm products sold and selected crops	Average acreage per farm	
	Hiring labor	Not hiring labor
	Acres	
$40,000-$99,999:		
Total acreage	1,177	1,411
Cultivated	431	279
Hay	58	27
Grain	216	176
Other	155	75
Pasture	551	1,071
Other uncultivated	195	60
$100,000 and over:		
Total acreage	3,867	405
Cultivated	728	270
Hay	125	21
Grain	291	198
Other	310	51
Pasture	2,774	106
Other uncultivated	365	28
All farms:		
Total acreage	452	220
Cultivated	149	76
Hay	29	16
Grain	69	39
Other	50	20
Pasture	217	96
Other uncultivated	85	47

Appendix table 6.--Acreage on farms hiring and not hiring labor, by type of farm and selected crops, 48 States, 1966

Type of farm and selected crops	Average acreage per farm	
	Hiring labor	Not hiring labor
	Acres	
Cash grain:		
Total acreage	495	263
Cultivated	280	172
Grain	156	93
Other	123	77
Hay and pasture	110	43
Other uncultivated	105	4
Tobacco:		
Total acreage	94	72
Cultivated	24	7
Tobacco	3	1
Cotton	1	0
Grain	10	4
Other	8	1
Hay and pasture	30	25
Other uncultivated	39	39
Cotton:		
Total acreage	271	65
Cultivated	141	27
Cotton	51	10
Grain	12	8
Other	78	7
Hay and pasture	51	12
Other uncultivated	78	25
Other field crops:		
Total acreage	283	135
Cultivated	168	80
Peanuts	26	7
Soybeans	8	3
Grain	51	18
Other	81	50
Hay and pasture	52	17
Other uncultivated	63	38
Vegetable:		
Total acreage	133	47
Cultivated	100	20
Grain	13	4
All vegetables	29	5
Tomatoes	6	0
Beans	9	0
Corn	5	1
Other vegetables	8	3
Other cultivated	56	10
Hay and pasture	9	4
Other uncultivated	24	22

Appendix table 6.--Acreage on farms hiring and not hiring labor, by type of farm and selected crops, 48 States, 1966--Continued

Type of farm and selected crops	Average acreage per farm	
	Hiring labor	Not hiring labor
	Acres	
Fruit and nut:		
Total acreage	109	42
Cultivated	48	15
Grain	2	2
All fruit	30	7
Oranges	10	0
Apples	8	2
Peaches	3	1
Other	9	3
Other cultivated	44	12
Hay and pasture	19	9
Other uncultivated	42	18
Poultry:		
Total acreage	160	157
Cultivated	43	25
Grain	22	7
Other	21	10
Hay and pasture	54	13
Other uncultivated	62	24
Dairy:		
Total acreage	250	176
Cultivated	120	85
Hay	48	35
Grain	58	39
Other	13	8
Pasture	70	49
Other uncultivated	60	42
Other livestock:		
Total acreage	466	203
Cultivated	152	60
Hay	41	16
Grain	72	30
Other	37	12
Pasture	218	90
Other uncultivated	95	53

Appendix table 6.--Acreage on farms hiring and not hiring labor, by type of farm and selected crops, 48 States, 1966--Continued

Type of farm and selected crops	Average acreage per farm	
	Hiring labor	Not hiring labor
	Acres	
Livestock ranches:		
Total acreage	6,485	2,043
Cultivated	106	20
Hay	59	19
Grain	34	1
Other	12	0
Pasture	6,179	2,015
Other uncultivated	199	7
General:		
Total acreage	385	172
Cultivated	195	101
Hay	36	23
Grain	66	43
Other	91	33
Pasture	87	36
Other uncultivated	102	34

APPENDIX B: SCOPE AND METHOD OF 1966 SURVEY

Findings in the study are based on information obtained in the 1966 Pesticide and General Farm Survey, a nationwide survey made in 1967 and covering 1966 farming operations. About 9,600 farmers in 417 counties throughout the 48 contiguous States were enumerated.

The Standards and Research Division of the U.S. Department of Agriculture's Statistical Reporting Service (SRS) designed the nationwide sample from which farmers were selected for interview. The Data Collection Branch, Survey and Data Division, SRS, assisted in developing the final format of the questionnaires and supervised the collection of data through its State statistical offices.

Farmers were selected for interview on the basis of a stratified, random sample designed to represent all farms. A proportionately greater number of larger farms was included in the sample. Farms with sales of $10,000 to $39,999 were sampled at four times the rate of those with sales less than $10,000. Farms with sales of $40,000 or more were sampled at twice the rate of those with sales of $10,000 to $39,999. However, the following weighting factors were applied in the programing to put each economic class on a 1-to-1 ratio. Data on farms with sales of:

Less than $10,000 were multiplied by 4
$10,000 to $39,999 were multiplied by 1
$40,000 and over were multiplied by 1/2

This weighting expanded the number of farms, making each class of farms representative.

For persons interested in comparing the data from the 1966 Pesticide and General Farm Survey with those of other surveys, see appendix tables 7-9. The distribution of farms and value of sales for the surveys are compared.

Only farms meeting the Census Bureau's definition of a farm are included in the labor tabulations. Through the adjusted expansion factor, labor information was obtained from 16,249 farms.

For definitions used and States included in each of the farm production regions discussed in this report, see appendix C.

Appendix table 7.--Distribution of farms by economic class in selected surveys or estimates based on surveys

Economic class	1964 Census of Agriculture 1/	1965 Census of Agriculture, special labor study 2/	1966 ESAD estimates of farms based on census and SRS data 3/	1966 Pesticide and General Farm Survey 4/	
				All farms in survey	Farms with labor data
	Percent				
Class VI ($50-$2,499)	42.4	43.0	43.0	40.7	33.7
Class V ($2,500-$4,999)	14.1	13.9	11.6	13.4	15.3
Class IV ($5,000-$9,999)	16.0	15.8	14.3	17.3	18.8
Class III ($10,000-$19,999)	14.8	14.3	15.5	13.8	14.5
Class II ($20,000-$39,999)	8.2	13.0	9.9	10.0	11.7
Class I ($40,000 and over)	4.5		5.7	4.8	6.0
	Number				
All economic classes 5/	3,157,857	3,197,000	3,239,000	18,961	16,249

1/ 1964 Census of Agriculture, Vol. II, General Report. Bureau of the Census.
2/ 1965 Census of Agriculture, Vol. III, Special Labor Study, Part 2, Farm Labor. Bureau of the Census.
3/ 1966 estimates by U.S. Dept. Agr., Statis. Rpt. Serv. farm data, computed by Econ. and Statis. Anal. Div., Econ. Res. Serv.
4/ 1966 Pesticide and General Farm Survey. U.S. Dept. Agr., Econ. Res. Serv., Farm Prod. Econ. Div., unpublished.
5/ All farms included: commercial, part-time, part-retirement, and abnormal.

Appendix table 8.--Distribution of value of sales by economic class for three major surveys or estimates

Economic class	1964 Census of Agriculture 1/	1966 Pesticide and General Farm Survey 2/	1966 ESAD estimates based on census and SRS data 3/
	Percent		
Class VI ($50-$2,499)	3.2	3.0	3.1
Class V ($2,500-$4,999)	4.6	4.2	3.2
Class IV ($5,000-$9,999)	10.4	9.3	7.9
Class III ($10,000-$19,999)	18.7	14.4	16.7
Class II ($20,000-$39,999)	20.2	22.7	20.6
Class I ($40,000 and over)	42.5	46.4	48.5
All economic classes 4/	99.6	100.0	100.0

1/ 1964 Census of Agriculture, Vol. II, General Report, table 15, col. 2. Bureau of the Census.

2/ 1966 Pesticide and General Farm Survey. U.S. Dept. Agr., unpublished.

3/ Estimates by U.S. Dept. Agr., Econ. Res. Serv., Econ. and Statis. Anal. Div.

4/ Total value of all farm sales in 1964 Census of Agriculture was $35,294,000,000; for farms in the 1966 Pesticide and General Farm Survey, $244,984,156; and for ESAD 1966 estimates, $43,180,000,000.

Appendix table 9.--Distribution of farms by type of farm in 1964 Census of Agriculture and 1966 survey

Type of farm	Farms		
	1964 Census of Agriculture 1/	1966 Pesticide and General Farm Survey 2/	
		All farms in survey	Farms with labor data
	Percent		
Cash grain	16.7	19.8	16.1
Tobacco	7.4	5.9	9.4
Cotton	6.4	2.8	3.6
Other field crop	1.3	1.3	1.1
Vegetable	1.1	1.2	1.3
Fruit and nut	2.7	2.3	2.1
Poultry	3.3	3.1	2.0
Dairy	12.7	17.6	13.2
Other livestock	27.9	32.2	32.9
Livestock ranches	3.4	1.8	1.6
General	9.0	5.6	5.3
Miscellaneous	8.0	6.4	11.4
All farm types 3/	99.9	100.0	100.0

1/ 1964 Census of Agriculture, Vol. II, General Report, table 15. Bureau of the Census.
2/ 1966 Pesticide and General Farm Survey. U.S. Dept. Agr., Econ. Res. Serv., unpublished.
3/ All farms included: commercial, part-time, part-retirement and abnormal farms.

APPENDIX C: SURVEY DEFINITIONS

Farmwork--includes time spent tending crops and livestock and performing overhead jobs such as constructing and repairing fences and farm buildings, maintaining and repairing machinery, and similar farm maintenance jobs. Note: Time spent planning and managing the farm operations is excluded. For example, farm recordkeeping, attending educational or farm business meetings, making farm financial arrangements, and performing housework are not considered to be farmwork.

Regions--States included in each of the 10 farm production regions are shown in the figure inside the front cover.

Economic Class--For the study, there are seven basic classes of sales groups with the same dollar ranges used by the Bureau of the Census in its Census of Agriculture.

Economic class	Gross sales
Class VI------	$50-$2,499
Class V-------	$2,500-$4,999
Class IV------	$5,000-$9,999
Class III-----	$10,000-$19,999
Class II------	$20,000-$39,999
Class I-------	$40,000 and over. Divided into two sectors: a. $40,000-$99,999 b. $100,000 and over

Type of Farm as Defined in 1966 Survey

Type of farm	Source of cash income
	(Products with sales value representing 50 percent or more of total value of all farm products sold.)
Cash grain	Corn, sorghums, small grains, soybeans for beans, cowpeas for peas, dry field and seed beans, and peas.
Tobacco	Tobacco.
Cotton	Cotton.
Other field crop	Peanuts, potatoes (Irish and sweet), sugarcane for sugar or sirup, sweet sorghums for sirup, broomcorn, popcorn, sugar beets, mint, hops, and sugar beet seed.
Vegetable	Vegetables.
Fruit and nut	Berries, other small fruits, tree fruits, grapes, and nuts.
Poultry	Chickens, chicken eggs, turkeys, and other poultry products.
Dairy	Milk and cream. The criterion of 50 percent of total sales was modified for dairy farms. A farm having value of sales of dairy products amounting to less than 50 percent of the total value of farm products sold was classified as a dairy farm, if: (a) Milk and cream sold accounted for more than 30 percent of the total value of products sold; (b) Milk cows represented 50 percent or more of total cows; and (c) The value of milk and cream sold plus the value of cattle and calves sold amounted to 50 percent or more of the total value of all farm products sold.
Livestock ranches	Farms in the 17 conterminous Western States, Louisiana, and Florida, were classified as livestock ranches if the sales of livestock, wool, and mohair represented 50 percent or more of the total value of farm products sold, and if pastureland or grazing land amounted to 100 or more acres and was 10 or more times the acreage of cropland harvested.
Livestock other than dairy and poultry	Cattle, calves, hogs, sheep, goats, wool, and mohair except farms in the 17 conterminous Western States, Louisiana, and Florida that qualified as livestock ranches.
General	Field seed crops, hay and silage. Also, a farm was classified as general if it had cash income from three or more sources and did not meet the criteria for any other type.
Miscellaneous	Nursery and greenhouse products, forest products, mules, horses, colts, and ponies. Also, all institutional farms and Indian reservations.